



Supplemental Figure

Gap-strategy for site-selective hydrolysis of DNA2^(S) by the Ce(IV)/EDTA complex. Lane 1, control; lane 2, DNA2^(S) alone; lane 3, with DNA2^(F); lane 4, with DNA2^(G)-L; lane 5, with DNA2^(G)-R2; lane 6, 2-base gap (DNA2^(G)-L + DNA2^(G)-R3); lane 7, 3-base gap (DNA2^(G)-L + DNA2^(G)-R4); lane 8, 4-base gap (DNA2^(G)-L + DNA2^(G)-R5); lane 9, 5-base gap (DNA2^(G)-L + DNA2^(G)-R1); lane 10, 10-base gap (DNA2^(G)-L + DNA2^(G)-R2). Reaction conditions: [DNA1^(S)]₀ = 1.0 •M, [each of oligonucleotide additives]₀ = 1.1 •M, [NaCl]₀ = 100 mM, [Ce(IV)/EDTA complex] = 500 •M, and [spermine] = 100 •M at pH 7.0 (2.5 mM Hepes buffer) and 37°C for 4 days.

Sequences of substrate and oligonucleotide additives.

DNA2 ^(S)	5'-GCATGGAGGAGAGCGTGTGTATCCAATTATTAAGCGAGAGGGGCAAG-3'
DNA2 ^(F)	3'-CGTACCTCCTCTCGCACAAACATAGGTTAATAATTCGCTCTCCCCGTT-5'
DNA2 ^(G) -L	3'-CGTACCTCCTCTCGCACAAA-5'
DNA2 ^(G) -R1	3'-GTTAAATAATTCGCTCTCCCCGTT-5'
DNA2 ^(G) -R2	3'-ATAATTCGCTCTCCCCGTT-5'
DNA2 ^(G) -R3	3'-TAGGTTAAATAATTCGCTCTCCCCGTT-5'
DNA2 ^(G) -R4	3'-AGGTTAAATAATTCGCTCTCCCCGTT-5'
DNA2 ^(G) -R5	3'-GGTTAAATAATTCGCTCTCCCCGTT-5'